TABLE 3

X-ray diffraction peaks for a Polymorph from Experiment 7.3.6.

Two-Theta	Relative Intensity
3.2978	41.0000
7.5615	400.0000
9.9482	21.0000
15.4289	31.0000
22.0360	20.0000
22.5361	20.0000
24.9507	12.0000
29.5886	10.0000
34.8526	19.0000
37.7092	17.0000
40.4361	13.0000
42.2446	18.0000

8.2 Second Polymorph of R-Tiacumicin Experimental Data

A second polymorph of Compound of Formula I is also characterized by Differential Scanning Calorimetry (DSC) and powder X-Ray Diffraction (XRD).

The DSC plot of polymorph B shows an endothermic curve at 158° C. The XRD diagram (reported in FIG. **5**) shows peaks comprising at the values of the diffraction angles 2-theta of 7.6°, 15.4° and 18.8°. Polymorph B has a melting point in the range of 153-156° C. measured by Melting Point apparatus, MEL-TEMP 1001.

It is believed that crystalline polymorphic forms of Compounds of Formula I other than the above-discussed A and B exist and are disclosed herein. These crystalline polymorphic forms, including A and B, and the amorphous form or mixtures thereof contain varying amounts of Compound of Formula I and in certain cases mixtures of tiacumicins can be advantageously used in the production of medicinal preparations having antibiotic activity.

X-ray powder diffraction of the crystals is shown in FIG. **3** with peaks at angles 2θ of 7.5°, 15.7°, and 18.9°±0.04 indicating the presence of Polymorph B.

The DSC plot of Polymorph B shows an endothermic curve starting at about at 150° C. and peak at 158° C.

Table 4 is a summary of the various data that was isolated for illustrative crystallization lots.

TABLE 4

Data Summarizing Various Lots

No.	Compound of Formula I Content (%)	Mp (° C.)	DSC (° C.) Peak	XRD (2 theta)	Crystallization Solvent
1	76.3	155-158		7.7, 15.0, 18.8,	MeOH/Water
2	85.3	159-164	180	7.8, 14.9, 18.8,	MeOH/Water
3	85.4	163-165		7.6, 15.4	Iso-propanol (IPA)
4	85.4	164-168		7.9, 15.0, 18.8	Acetonitrile
5	85.4	153-156		7.5, 15.7, 18.9	EtOAc
6	90	165-168		7.5, 15.2, 15.7, 18.6	MeOH/ Isopropanol
7	97.2	160-163	177	7.4, 15.4, 18.7	IPA
8	94.0	166-169	177	7.6, 15.1, 18.6	MeOH/Water
9	97.2	167-173	187	7.8, 14.8, 18.8	MeOH/Water
10	96.7		160	7.5, 15.4, 18.8	EtOAc
11	98.3	163-164	178	7.7, 15.0, 18.8	MeOH/IPA

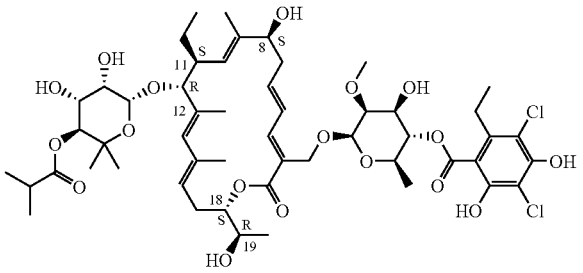
The present invention is not to be limited in scope by the specific embodiments disclosed in the examples which are intended as illustrations of a few aspects of the invention and any embodiments which are functionally equivalent are within the scope of this invention. Indeed, various modifications of the invention in addition to those shown and described herein will become apparent to those skilled in the art and are intended to fall within the appended claims.

A number of references have been cited, the entire disclosures of which are incorporated herein by reference.

What is claimed is:

1. A polymorphic form of a compound of Formula I:

Formula I



characterized by a powder x-ray diffraction pattern wherein said x-ray diffraction pattern comprises peaks at diffraction angles 2θ of 7.7°, 15.0°, and 18.8°±0.2 as said peaks are set forth in FIG. **1**.

2. A solid dosage form comprising the polymorphic form of a compound of Formula I of claim **1**.

3. The solid dosage form of claim **2**, wherein the polymorphic form of a compound of Formula I is present in at least about 75% to about 99.99% of the total weight.

4. The solid dosage form of claim **2**, wherein the polymorphic form of a compound of Formula I is present in at least about 85% of the total weight.

5. The solid dosage form of claim **2**, wherein the polymorphic form of a compound of Formula I is present in at least about 90% of the total weight.

6. The solid dosage form of claim **2**, wherein the polymorphic form of a compound of Formula I is present in at least about 95% of the total weight.

7. The solid dosage form of claim **2**, wherein the polymorphic form of a compound of Formula I is present in at least about 99% of the total weight.

8. The polymorphic form of the compound of Formula I according to claim **1** characterized by a DSC endotherm in the range of about 174° C. to about 186° C.

9. A solid dosage form comprising the polymorphic form of a compound of Formula I of claim **8**.

10. The solid dosage form of claim **9**, wherein the polymorphic form of a compound of Formula I is present from about 75% to about 99.99% of the total weight.